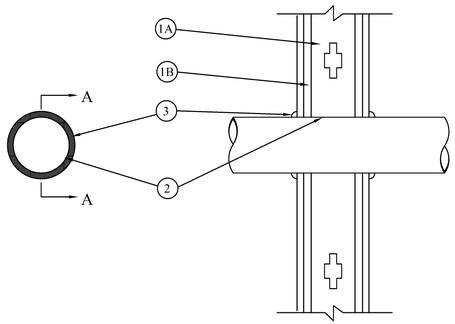
System No. W-L-1166

June 15, 2005

F Rating - 1 and 2 Hr (See Item 1B)

T Rating - 0 Hr



SECTION A-A

1. WALL ASSEMBLY – THE 1 OR 2 HR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN. 3–1/2 IN. WIDE AND SPACED MAX. 24 IN. OC.
   B. GYPSUM BOARD* – THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX. DIAM. OF OPENING IS 5 IN.

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH – PENETRANTS – ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN. OF 0 IN. (POINT CONTACT) TO MAX. 1/8 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED"
   A. COPPER TUBING – NOM. 4 IN. DIAM. (OR SMALLER) TYPE M (OR HEAVIER) COPPER TUBING.
   B. COPPER PIPE – NOM. 4 IN. DIAM. (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
   C. STEEL PIPE – 4 IN. DIAM. (OR SMALLER) SCHEDULE 5 (OR HEAVIER) STEEL PIPE.
   D. CONDUIT – NOM. 4 IN. DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR RIGID STEEL CONDUIT.
   E. IRON PIPE – NOM. 4 IN. DIAM. (OR SMALLER) CAST OR DUCTILE IRON PIPE.

3. FILL, VOID OR CAVITY MATERIALS* – CAULK, SEALANT OR PUTTY – MIN. 1/2 IN. DIAMETER BEAD OF CAULK OR PUTTY APPLIED CONTINUOUSLY AROUND THE PENETRANT ON THE WALL SURFACES ON BOTH SIDES OF THE WALL.

3M COMPANY – CP 25WB+CAULK, MPS–2+PUTTY, OR FB–3000 WT SEALANT

* BEARING THE UL CLASSIFICATION MARK

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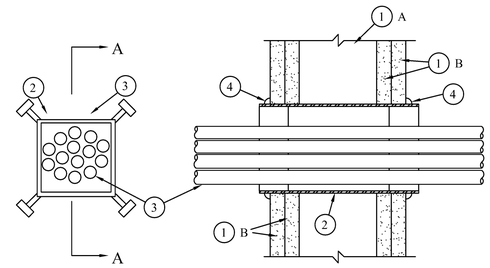
1 1 & 2 HOUR CONDUIT PENETRATIONS
SCALE: NONE

STI SYSTEM NO. EZD33FWS EASY PATH

F Rating - 1 and 2 Hr (See Item 1)

ASTME 814 (ANSI/UL 1479)



SECTION A-A

NOTE: THIS DETAIL SHALL BE USED AT ALL LOW VOLTAGE CABLE PENETRATIONS OF SMOKE/FIRE RATED WALLS. PROVIDE MULTIPLE WHERE NEEDED BY NUMBER OF CABLES.

1. WALL ASSEMBLY – THE 1 OR 2 HR FIRE–RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM. 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM. 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN. 3–1/2 IN. WIDE BY 1–3/8 IN. DEEP CHANNELS SPACED MAX. 24 IN. OC.
   B. GYPSUM BOARD* – 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX. DIAM. OF OPENING 4 IN.

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN INSTALLED IN A 1 HR FIRE RATED WALL AND 2 HR WHEN INSTALLED IN 2 HR FIRE RATED WALL.

2. STI EASY PATH NO. EZD33FWS OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

3. CABLES – AGGREGATE CROSS–SECTIONAL AREA OF CABLES IN OPENING TO BE MIN. 10 PERCENT TO MAX. 40 PERCENT OF THE CROSS–SECTIONAL AREA OF THE SLEEVED OPENING IN WALL. CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLE MAY BE USED:
   A. MAX. 150 PAIR NO. 24 AWG COPPER CONDUCTOR TELECOMMUNICATION CABLES; PVC INSULATION AND JACKET MATERIALS. WHEN MULTICONDUCTOR TELECOMMUNICATION CABLE IS USED, T RATING IS 1/2 HR.
   B. MAX. 12 AWG MULTICONDUCTOR TYPE TC COPPER POWER AND CONTROL CABLES; TYPE XHHW CONDUCTORS (XLP INSULATION) WITH XLP OR PVC JACKET. WHEN MAX. 12 AWG MULTICONDUCTOR CABLES ARE USED, T RATING IS 1 HR.
   C. MULTIPLE FIBER OPTICAL COMMUNICATION CABLE JACKETED WITH PVC AND HAVING A MAX. OUTSIDE DIAM OF 5/8 IN. WHEN FIBER OPTIC CABLE IS USED, T RATING IS 1–1/2 HR.
4. FILL, VOID OR CAVITY MATERIALS* – PUTTY – MIN. 1 IN. THICKNESS OF MOLDABLE PUTTY PACKED TIGHTLY INTO ANNULAR SPACE BETWEEN CABLES AND SHEET STEEL SLEEVE (AND INTERSTICES BETWEEN CABLES, IF POSSIBLE), FLUSH WITH EACH END OF STEEL SLEEVE. A NOM. 1/4 IN. DIAM. CONTINUOUS "ROPE" OR PUTTY SHALL BE APPLIED AROUND THE CIRCUMFERENCE OF THE STEEL SLEEVE AT ITS EGRESS FROM THE GYPSUM WALLBOARD LAYERS ON BOTH SIDES OF THE WALL ASSEMBLY.

3M COMPANY – TYPE MPS–2+, CABLE WRAP PUTTY

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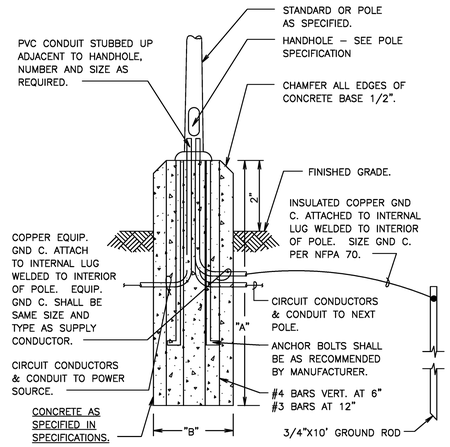
2 1 & 2 HOUR COMMUNICATION CABLE PENETRATIONS
SCALE: NONE

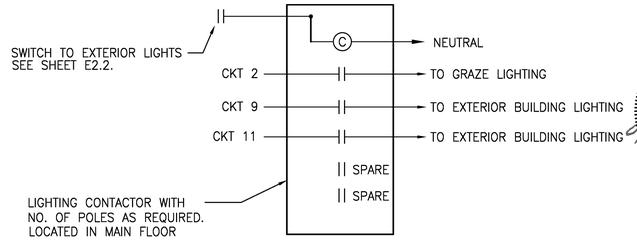


LEGEND

GND C. – GROUNDING CONDUCTOR

POLE HT.	A	B
8' – 20'	66"	24"
21' – 30'	96"	24"
31' – 40'	102"	30"

3 BOLT-DOWN POLE FOUNDATION
SCALE: NONE



GENERAL NOTES (EXTERIOR LIGHTING CONTROL DETAIL):

1. CONTRACTOR SHALL PROVIDE A SEPARATE CONTACTOR ENCLOSURE FOR ADDITIONAL VOLTAGES AND SHALL PROVIDE CONTACTS AS NECESSARY.
2. CONTRACTOR SHALL PROVIDE AN ADDITIONAL CONTACTOR ENCLOSURE AT THE CONTROL TOWER AND SHALL PROVIDE CONTACTS AS NECESSARY.

4 EXTERIOR LIGHTING CONTROL DETAIL
SCALE: NONE

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REVISIONS:

DATE: AUGUST 28, 2012

DRAWN BY:

SHEET TITLE: DETAILS – ELECTRICAL

SHEET NO: **E0.3**